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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/073,879	02/14/2002	Yuki Nakajima	040356-0428	6750
22428	7590	03/01/2004	EXAMINER	
FOLEY AND LARDNER SUITE 500 3000 K STREET NW WASHINGTON, DC 20007			PHAM, LEDA T	
			ART UNIT	PAPER NUMBER
			2834	

DATE MAILED: 03/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/073,879	Applicant(s) NAKAJIMA ET AL.	
	Examiner Leda T. Pham	Art Unit 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This office action is in response to Amendment filed on 12/24/03.
2. Claims 1 – 9 are presented for examination.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 – 4, 7 - 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Kiuchi et al. (U.S. Patent No. 5,621,304).

Referring to claims 1, 8 and 9, Kiuchi teaches a control system for a vehicle (figure 1) comprising:

a generating device (17)

a battery (3)

a motor electrically connected to the generating device and battery, which drives the vehicle (4)

and a controller (figure 1, 2) which functions to:

determine a running condition of the vehicle (7, 8, 9),

compute a target motor power, which is a target value of the power of the motor, based on the vehicle running condition (12),

compute an available output from the battery to the motor based on the target motor power (5),

compute a target generated power, which is a target value of the power generated by the generating device, based on the available battery output and target motor power (19),

and control the generating device based on the target generated power (20).

Referring to claim 2, Kiuchi teaches the control system wherein the generating device comprising an engine (16) and a generator (17) connected to the engine, and the controller further functions to control the rotation speed of the generator (sensor 27) and torque of the engine (26) based on the target generated power.

Referring to claim 3, Kiuchi teaches the control system wherein the controller further functions to compute a voltage required to obtain the target motor power, and compute the available battery output based on the required voltage (13, 14, 15).

Referring to claim 4, Kiuchi teaches the control system wherein the controller further function to compute the available battery output such that the computed available battery output decreases as the required voltage increase (lines 22 – 59, column 7).

Referring to claim 7, Kiuchi teaches the control system wherein the controller further functions to compute a target battery output, which is a target value of the power output from the battery, to make the state of charge of the battery approach a target value, compute the target generated power by subtracting the target battery output from the target motor power when the target battery output is smaller than the available battery output, and compute the target generated power by subtracting the available battery output from the target motor power when the target battery output is larger than the available battery output (lines 22 – 33, column 7).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 5 - 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kiuchi in view of Inada et al (U.S. Patent No. 6,215,198 B1).

Referring to claim 5, Kiuchi teaches the claimed invention except for the added limitation of the control system having a sensor which detects a state of charge of the battery.

Inada teaches a generating control device for hybrid vehicle having a sensor detecting a state of charge of the battery (figure 3a) for the controller (16) computes the available battery output such that the computed available battery output decreases as the state of charge of the battery increase (lines 27 – 36, column 4, figure 3a).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kiuchi's control system having a sensor detecting a state of charge of the battery as taught by Inada. Doing so would reduce the deterioration of the battery of the hybrid vehicle and ensure the fine driving performance.

Referring to claim 6, Inada teaches a sensor which detects a temperature of the battery (line 46 – 47, column 3) and the controller further functions to compute the available battery output decreases as the battery temperature decreases (figure 3a- 3b).

Response to Arguments

7. Applicant's arguments filed 12/24/03 have been fully considered but they are not persuasive.
8. The arguments are not persuasive because Kiuchi teaches "an available output from the battery to the motor base on the target motor power" (lines 26 – 31, column 6, and line 65 column 6 – line 8 column 7).
9. In response to applicant's argument that "Kiuchi does not disclose or suggest the claimed computing of an available output from a battery based on the target motor power", the Examiner disagrees because the motor control unit 12 determines a target torque from the propulsive electric motor 4 (target motor power) and imparts to the motor energy supply controller 5, therefore the motor energy supply controller 5 controls the supply of electric energy (available output) from the battery 3 to the propulsive electric motor 4, see figure 4 and line 65 column 6 to line 8 column 7.
10. Applicant's arguments with respect to claim 6 have been considered but are moot in view of the new ground(s) of rejection since the claims have been amended.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

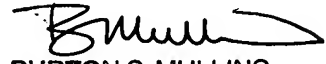
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leda T. Pham whose telephone number is (571) 272-2032. The examiner can normally be reached on M-F (7:30-5:00) first Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Burton Mullins can be reached on (571) 272 2029. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Leda T. Pham
Examiner
Art Unit 2834

LTP
February 11, 2004


BURTON S. MULLINS
PRIMARY EXAMINER